

Study Guide for Unit 1: Organic Chemistry

- 1.1 All of naming of alkanes- know the length of the carbon chain and the uses (p. 16)
- 1.2 Alkenes and alkynes (p. 19) - naming, cis and trans for isomers, reactions (p. 24 and 25); Markovnikov's rule and how it applies to reactions
- 1.3 Aromatic Hydrocarbons (know the naming, the uses and carcinogenic properties, how is toluene safer (p. 30); reactions of aromatic compounds (p. 30).
- 1.4 Alcohols (p.33-36, reactions, properties and bonding hydrogen bonding), Ethers (condensation reaction) and thiols (p.38, what is it?) p
- 1.5 Aldehydes and Ketones (p. 40) naming, properties, reaction (p. 44 oxidation), hydrogenation reaction (p.44)
- 1.6 Carboxylic Acids, Esters and Fats (p. 47, properties); esters (p. 49, naming esterification and hydrolysis (p.51)

Practice Questions: p. 53, #1.

Chapter 2

2.1 Define (polymer, monomer, homopolymer, copolymer) p.80

2.2 Create a polymer from monomer

Science, Technology and Society: Are going to most likely be on plastics and problems and how to create a proposal to combat the problem.

2.4 Synthetic Condensation Polymers (creating an example, see p. 96).

2.6 Natural Polymers, define carbohydrate, monosaccharide, polysaccharide)

Peptides and Proteins (p. 102); Nucleic Acids (define DNA, RNA)

Application Question specifically Science, Technology and Society:

When you are answering these types of questions:

1. Science- What are the specific concepts. For example organic chemistry, decide what makes this different. What are the elements involved in organic chemistry. Make sure you define each concept.
2. Technology involves re all of the devices, machines and use of computers and how it is applied to learn more about a science concept. For example in the shark video, the use of cameras and also tracking devices to learn about the species was used. In petrochemical the use of fracking technologies are used to improved access to natural gas. Technology in farming practices is to grow crops for gas rather than food.

3. Society- How do humans, cities, countries interact with compounds, such as petrochemicals, which are alkanes? Are there conflicts over regions? Are areas suffering drought in regions? Does one country follow the rules and another one does not, how does this work for international efforts for change in behavior?

Answer the question: WHO CARES? DOES THIS IMPACT YOUR LIFE?

Lab Related Questions

Define: solubility, boiling, melting points

Ranking: are compounds soluble or less soluble (This is based on "Like dissolves like"; polar dissolves polar, and non-polar dissolves non polar)

Analyzing compounds compound change in Electro negativity (determine the Change in electronegativity to determine if the compound is polar of non-polar)